PATENT
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#13

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: John C. Thacker et al.	:	Date: January 14, 2002
Serial No.: 09/356,997	:	
Filed: July 20, 1999	:	Group Art Unit: 2758
For: Method and Apparatus for Internet Cache Content Delivery Via a Data Distribution System	:	Examiner: Saleh Najjar

RESPONSE TO OFFICE ACTION

Commissioner of Patents and Trademarks
Washington, D. C. 20231

Sir:

In response to the Office Action mailed January 2, 2002, please consider the following remarks regarding the patentability of the present invention.

Regarding the status of this application, Claims 1-19 are presently pending in this application. Reconsideration of this application is respectfully requested.

Claims 1-4, 13, 14, 17 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,987,233 issued to Humphrey in view of U.S. Patent No. 5,878,223 issued to Becker et al. The Examiner's position is that the Humphrey et al. patent "teaches a caching system for use with a data distribution system" as is presently claimed but admitted that it "fails to teach the claimed limitation of probability distributions". The Examiner also admitted that " Humphrey does not explicitly disclose a gateway connected to the master cache."

However, the Examiner indicated that "Becker teaches a system and method for predictive caching of information pages at an interim computer located between the client computers and the server source using prediction tables so that pages are sent to the client without specific request by the client (see summary). Becker teaches using a probability table at the interim computer having entries representing historical probability values for selection of a page by the client (see figs. 1-6; col. 8-9)." The Examiner also stated that "However, "Official Notice" is taken that the concept and advantages of using a Gateway to connect a resource distribution network to a subscriber or client network is old and well known in the network communication art.

The Examiner concluded that "It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Humphrey by implementing probability tables at the satellite link in view of Becker so that pages are predictively obtained at the master cache. One would be motivated to do so to predict future requests of data based on user explicit request for data.

The Humphrey patent discloses that "The comprehensive global information network broadcasting system and implementation thereof is designed to be used to provide a plurality of, what is commonly referred to as internet service providers with updated information through the

use of high speed satellite links directly to the local internet service provider from a centralized location. The satellite broadcasting system is combined with servers known as caching or proxy servers located at the client site which serve to store web and other data until the end user needs to access the data and a master cache center which coordinates the selection and transmission of information to those client sites via the satellite broadcasting system. The caching of data objects as close to the end user as possible will require less data to transit the backbones networks. The client site cache communicates to the master cache center via a connection to the internet and the client site cache receives from the master cache center via the satellite broadcasting system and, in some cases, the internet connection."

The Becker et al. patent discloses that "A computer, e.g. a server or computer operated by a network provider sends one or more requesting computers (clients) a most likely predicted-to-be selected (predicted) page of information by determining a preference factor for this page based on one or more pages that are requested by the client. This page is added to a local cache of predicted-to-be-selected pages in the client. Once the predicted-to-be selected page is in the cache, the client can update the appearance of the link (i.e. by changing the color or otherwise changing the appearance of the link indicator) to indicate to the user that the page represented by that link is available in the local cache."

Claim 1 calls for a caching system for use with a data distribution system, comprising:

a master cache for receiving content for distribution by the data distribution system to one or more users;
a gateway for receiving content that is distributed by the data distribution system from the master cache;
one or more local caches for storing the content received by the gateway destined for the one or more users; and
harvesting software coupled to the master cache and the gateway for processing information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective users.

The Becker et al. patent discloses the use of a prediction table 135 that is located in a remote server 130, as is shown in Fig. 2. As is shown in Fig. 2, the remote server 130 is connected by way of a backbone network 110 to a requesting computer 12. There is no disclosure or suggestion in the Becker et al. patent regarding the use of a gateway in the disclosed system. The Humphrey patent also does not disclose or suggest the use of a gateway connected to a master cache as was admitted by the Examiner. The Examiner has taken "Official Notice" that the concept and advantages of using a Gateway to connect a resource distribution network to a subscriber or client network is old and well known in the network communication art.

However, even assuming, arguendo, that use of a Gateway is known in the art, it is respectfully submitted that neither the Humphrey nor Becker et al. patents, combined with such "Official Notice" disclose or suggest the use of harvesting software coupled to the master cache

and the gateway for processing information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective users.

The Becker et al. patent employs probability tables in the remote server. The Becker et al. patent states that "The server 130 then updates 305 the probability table (135, 160) based on the page that was explicitly requested." In addition to the fact that the neither the Humphrey nor Becker et al. patents disclose or suggest the use of a gateway, and therefore do not disclose or suggest the use of harvesting software coupled to a master cache and a gateway, it is respectfully submitted that this is not a disclosure or suggestion regarding "processing information corresponding to probability distributions that the local caches satisfy requests from their respective users". The Becker et al. patent processes information at the server computer based on the page that was explicitly requested to update a probability table, and does not process information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective users.

As was stated above, the Becker et al. patent clearly states that a "server or computer operated by a network provider sends one or more requesting computers (clients) a most likely predicted-to-be selected (predicted) page of information by determining a preference factor for this page based on one or more pages that are requested by the client". This is not a disclosure or suggestion regarding distribution of information based upon the probability that user requests are satisfied.

Furthermore, with regard to the Examiner's use of Official Notice in light of the fact that neither of the cited patents disclose or suggest the use of a gateway, it is respectfully submitted that the Examiner has used hindsight reconstruction in order to reject the present invention. The Examiner has reconstructed the present invention based upon the teachings of the cited patents in light of Applicants' own teachings. One skilled in the art would not necessarily employ a gateway in the Humphrey system except for the disclosure of its use in the present specification.

In addition, and even if a gateway were employed in the Humphrey system, neither of the cited references disclose or suggest the use of harvesting software coupled to the master cache and the gateway. Also, neither of the cited references disclose or suggest the use of harvesting software for processing information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective users

Therefore, with specific regard to Claim 1, it is respectfully submitted that the Humphrey and Becker et al. patents, taken singly or together, do not disclose or suggest "a gateway for receiving content that is distributed by the data distribution system from the master cache", "one or more local caches for storing the content received by the gateway destined for

the one or more users", and "harvesting software coupled to the master cache and the gateway for processing information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective users" as is recited in Claim 1.

Accordingly, it is respectfully submitted that Claim 1 is not obvious in view of the Humphrey and Becker et al. patents, taken singly or together and is patentable thereover. Therefore, withdrawal of the Examiner's rejection of Claim 1 is respectfully requested.

Dependent Claims 2-4 are considered patentable based upon the patentability of Claim 1 from which they depend. Also, with regard to Claim 2, it is respectfully submitted that the Humphrey and Becker et al. patents, taken singly or together, do not disclose or suggest that "the harvesting software processes information contained in transmit hit/miss data and probability tables generated at the gateway" As is recited therein. There is no transmit hit/miss data disclosed or suggested in either of the cited references. Also, neither of the cited references disclose anything regarding generating transmit hit/miss data and probability tables generated at a gateway, since they do not disclose the use of a gateway. Therefore, withdrawal of the Examiner's rejection of Claims 2-4 is respectfully requested.

With regard to independent Claim 13, it is respectfully submitted that the Humphrey and Becker et al. patents, taken singly or together, do not disclose or suggest "a gateway that is distinct from the one or more user computers for receiving content that is distributed by the data distribution system from the master cache", "one or more local caches for storing the content received by the gateway destined for the one or more user computers, and "harvesting software coupled to the master cache and the gateway for processing information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective user computers" as is recited therein. It is respectfully submitted that the arguments presented above with regard to Claim 1 provide a clear basis for the allowability of Claim 13. Accordingly, withdrawal of the Examiner's rejection of Claim 13 is respectfully requested.

Dependent Claims 14, 17 and 19 are considered patentable based upon the patentability of Claim 1 from which they depend. Also, with regard to Claim 14, it is respectfully submitted that the Humphrey and Becker et al. patents, taken singly or together, do not disclose or suggest that "the harvesting software processes information contained in transmit hit/miss data and probability tables generated at the gateway" As is recited therein. There is no transmit hit/miss data disclosed or suggested in either of the cited references. Also, neither of the cited references disclose anything regarding generating transmit hit/miss data and probability tables generated at a gateway, since they do not disclose the use of a gateway. Therefore, withdrawal of the Examiner's rejection of Claims 14, 17 and 19 is respectfully requested.

Claims 5-8 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims. Claims 15-16 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 9-12, and 18 were allowed. The finding of allowable subject matter in this application is appreciated. However, these Claims have not been placed in independent form at this time to permit the Examiner to consider the above arguments regarding the allowability of the presently claimed invention.

The prior art cited by the Examiner but not applied is considered relevant to the extent indicated by the Examiner.

In view of the above amendments and arguments, it is respectfully submitted that all presently pending Claims are not obvious in view of the cited patent and are allowable over the art of record. Therefore, it is respectfully submitted that the present application is in condition for allowance. Reconsideration and allowance of this application are earnestly solicited. It is again respectfully submitted that this response does not require further searching by the Examiner and that this response places this application in

Respectfully submitted,

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